

**REMARKS**

This is in response to the Office Action that was mailed on April 25, 2005. Claims 28-32 and 34-48 are pending in the application. Applicants gratefully acknowledge the allowance of method claims 28-32, 34, and 46, and the indication that apparatus claims 47 and 48 would be allowable if rewritten in independent form.

Claims 35, 37, 38, 40-43, and 45 were rejected under 35 USC §102(b) as being anticipated by Cash. Claims 36 and 44 were rejected under 35 USC §103(a) as being unpatentable over Cash. Claim 39 was rejected under 35 USC §103(a) as being unpatentable over Cash in view of Graziani. The rejections are respectfully traversed.

**PROACTIVE VAPOR FLOW CONTROL**

As pointed out in the Amendment that was filed on January 19, 2005, the Cash reference teaches that:

Vapor withdrawal device 33 consists of a hollow ring having perforations 37 in its underside. The ring is connected to line 38. The vapors *pass* upwardly through the perforations into the lumen of the ring and flow therefrom into line 28.

Column 2, lines 56-60 (emphasis supplied). Looking at Figure 1 of Cash, line 28 feeds into a heat exchanger 32 and then through line 49 to join with reactor effluent. This is confirmed in lines 47-50 in column 3 of Cash.

In contrast, in the present invention,

... the hydrogen component comprising hydrogen sulfide, etc., is removed from peak 55 of high-pressure separation cell 53 and sent to hydrogen recycling unit 21 via flow meter 56 and flow adjustment valve 57. ... *Flow adjustment valve 57 is controlled* in accordance with the indication on flow meter 56 so that *quantity of flow is brought to the quantity of flow* with which adequate stripping is possible.

Page 17, first full paragraph (emphasis supplied). In other words, the apparatus of present invention ***proactively controls*** the flow of the vapors in order to effect stripping. This is reflected in an expressly recited feature of the presently claimed apparatus.

In claim 35, this feature is recited as “means for adjusting pressure of the separation space and/or a space between the holding member and the second catalyst layer”. In claim 43, this feature is recited as “a separation space that is positioned at the bottom of the first catalyst layer for separation of vapor component and liquid component, wherein the separation space and/or a space between the holding member and the second catalyst layer can have its pressure adjusted”.

Instead of pointing out where in the allegedly anticipatory Cash reference those expressly recited features of the present invention are found, the Examiner merely alleges that “Since hydrogen is added between the layers, the pressure can be adjusted in the space between the layers”. Office Action, sentence bridging pages 2-3. This generalized allegation does not satisfy the level of specificity required to make a sustainable rejection under 35 USC §102(b). The Examiner must point to some concrete evidence in the record, rather simply than relying upon his assessment of what is intuitive. It is improper to rely upon common knowledge and common sense to make up deficiencies in an allegedly anticipatory reference. Compare the decision of the Court of Appeals for the Federal Circuit in *In re Lee*, 61 USPQ2d 1430.

In claims 36 and 44, the proactive vapor control feature of the present invention is recited as “wherein said means for adjusting pressure comprises a flow meter and flow adjustment valve that are operatively connected to said gas outlet” and “a flow meter and flow adjustment valve

operatively connected to said gas outlet for the adjustment of pressure in the separation space and/or the space between the holding member and the second catalyst layer”, respectively.

Instead of pointing out where in Cash those expressly recited features of the present invention are found, the Examiner merely alleges that “Cash discloses the need to measure and control the volume of gas removed from the apparatus. Therefore, one would control and measure using known devices such as meters and valves”. Office Action, page 4. Information alleged by an Examiner to be “well known” in the industry, which information is not supported in the record, is an improper basis for finding motivation in the prior art to support a ruling of obviousness. Generalized allegations of what the skilled artisan would have been “well aware” do not satisfy the required level of specificity. The Examiner must point to some concrete evidence in the record, rather than relying on his assessment of what is “well recognized” or of what a skilled artisan would be “well aware.” It is improper to rely upon “common knowledge and common sense” of person of ordinary skill in art to find an invention obvious. *In re Lee, supra*.

Neither Cash nor Cash in view of Graziani teaches or suggests a feature that permits *adjusting* vapor flow to perform stripping, as required by apparatus claims 35-45.

#### FIRST AND SECOND HYDROGEN GAS STREAMS

Claim 35 expressly recites, among other things, “a hydrogen introduction part [which provides] a first hydrogen gas stream and a second hydrogen gas stream”. As exemplified in the specification, this can be:

... a plate with hydrogen nozzle spray holes that serve as the hydrogen introduction part  
... The hydrogen spray holes made in the top surface of the plate can feed hydrogen for stripping to liquid component on the plate. The hydrogen spray holes formed in the

bottom surface of the plate can feed hydrogen for hydrotreating to the second catalyst layer.

Specification, page 21, 9<sup>th</sup>-19<sup>th</sup> lines.

In stating the rejection over Cash, the Examiner says with respect to this aspect of the presently claimed invention only that the Cash “unit comprises a hydrogen feed source and a hydrogen introduction part that introduces hydrogen below the holding member and above the second catalyst layer”. Office Action, page 2. The Examiner fails to explain how the Cash reference allegedly anticipates an apparatus which includes “a hydrogen introduction part [which provides] a first hydrogen gas stream and a second hydrogen gas stream”.

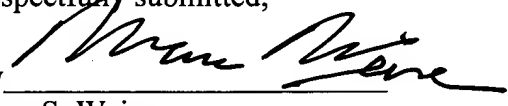
It is believed that the claims as they now stand define patentable subject matter such that passage to Issue of the instant invention is warranted. A Notice of Allowance is earnestly solicited.

If any questions remain regarding the above matters, please contact Applicant's representative, Richard Gallagher (Reg. No. 28,781) at (703) 205-8008.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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